



MEDS20010 *Fundamentals of Musculoskeletal*

Ultrasound

Term 1 - 2019

Profile information current as at 22/05/2024 01:29 pm

All details in this unit profile for MEDS20010 have been officially approved by CQUUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

This unit is an introduction to the theory and practice of basic soft tissue ultrasound imaging and is appropriate for science graduates and allied health / medical professionals wishing to use ultrasound as a focused diagnostic tool at the point of care. The unit will interest students engaged in, or studying towards, managing soft tissue injury and pathology, and is also useful to anyone who has interest in musculoskeletal imaging. You will develop knowledge of musculoskeletal ultrasound with emphasis on interpretation of anatomical structures, biomechanics, and pathology. You will study a range of anatomical structures and pathology which can mimic musculoskeletal conditions.

Details

Career Level: *Postgraduate*

Unit Level: *Level 8*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Co-requisite: MEDS20009 Science and Instrumentation of Ultrasound

Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the [Assessment Policy and Procedure \(Higher Education Coursework\)](#).

Offerings For Term 1 - 2019

- Online

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Postgraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

[Regional Campuses](#)

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

[Metropolitan Campuses](#)

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Online Test**

Weighting: Pass/Fail

2. **Written Assessment**

Weighting: Pass/Fail

Assessment Grading

This is a pass/fail (non-graded) unit. To pass the unit, you must pass all of the individual assessment tasks shown in the table above.

CQUniversity Policies

All University policies are available on the [CQUniversity Policy site](#).

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the [CQUniversity Policy site](#).

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Have your say unit evaluation: term 1, 2018

Feedback

Students appreciated the regular contact via email and zoom sessions.

Recommendation

Continue regular contact with students via email and zoom sessions.

Feedback from Have your say unit evaluation: term 1, 2018

Feedback

Students will like to see a review of textbook used for this unit.

Recommendation

The prescribed textbook: Continue to utilise the current prescribed textbook however change to the current edition from 2001 to 2007.

Feedback from Have your say unit evaluation: term 1, 2018

Feedback

Great information provided in lectures with practical applications which helped with learning and understanding.

Recommendation

Lectures were similar to Term 1, 2018 with minor updates made. A revision of the content of the lectures ensuring information is up-to-date and relevant will occur for 2019 delivery.

Feedback from Student verbal feedback

Feedback

Request for a practical workshop or residential school to apply the theoretical knowledge learned during the unit.

Recommendation

The inclusion of a practical workshop or residential school into the teaching schedule with assessment tasks will be reviewed. There are logistical requirements to consider due to the location of both staff and students within this distance mode unit.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Describe general anatomy, biomechanics and pathophysiology of the musculoskeletal system and related structures
2. Differentiate normal and simple abnormal ultrasound appearance of the musculoskeletal system and related structures
3. Differentiate ultrasound appearance of the musculoskeletal system from anatomical structures and pathology of other body systems
4. Interpret static and dynamic diagnostic ultrasound images to provide a provisional differential diagnosis.

This unit will not require external accreditation but will apply to appropriate profession specific bodies for recognition for Continuing Professional Development (CPD) related to Basic Soft Tissue Ultrasound.

Alignment of Learning Outcomes, Assessment and Graduate Attributes

 N/A Level	 Introductory Level	 Intermediate Level	 Graduate Level	 Professional Level	 Advanced Level
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Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Online Test - 0%	•	•	•	•
2 - Written Assessment - 0%			•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
1 - Knowledge	○	○	○	○
2 - Communication	○	○	○	○
3 - Cognitive, technical and creative skills	○	○	○	○
4 - Research				
5 - Self-management				○
6 - Ethical and Professional Responsibility				
7 - Leadership				
8 - Aboriginal and Torres Strait Islander Cultures				

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes							
	1	2	3	4	5	6	7	8
1 - Online Test - 0%	○	○	○					
2 - Written Assessment - 0%	○	○	○		○			

Textbooks and Resources

Textbooks

MEDS20010

Prescribed

Ultrasound of the Musculoskeletal System

Edition: First (2007)

Authors: Stefano Bianchi and Carlo Martinoli

Springer-Verlag

New York , New York , USA

ISBN: 978-3-540-28163-4

Binding: eBook

Additional Textbook Information

Please note that the prescribed text for this unit is available as a free digital download from the CQUniversity library. A link to the download resource is provided in the introductory information of the unit Moodle site. Also of note is that the prescribed text for MEDS20010 is common for the upper and lower body region units MEDS20011 and MEDS20012 of the Graduate Certificate in Soft Tissue Ultrasound.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Camera and microphone for attending Zoom tutorials

Referencing Style

All submissions for this unit must use the referencing style: [Vancouver](#)
For further information, see the Assessment Tasks.

Teaching Contacts

Brendan Goode Unit Coordinator
b.goode@cqu.edu.au

Schedule

Week 1 - 11 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Introduction and Information about Assessment items	Lectures and notes on Moodle site.	

Week 2 - 18 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Chapter 1 of prescribed text available from the library (digital copy) as a free download.

Radiologic and sonographic terminology and technical requirements

Prescribed Textbook

Ultrasound of the Musculoskeletal System 1 (2007)
Authors: Stefano Bianchi and Carlo Martinoli

Zoom tutorial Monday 18th of March 7pm AEST (Australian Eastern Standard Time).

Additional readings and lectures on course Moodle site.

Week 3 - 25 Mar 2019

Module/Topic	Chapter	Events and Submissions/Topic
Skin and subcutaneous structures	Chapter 2 of prescribed text available from the library (digital copy) Additional readings and lectures on course Moodle site.	

Week 4 - 01 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Muscles and Fasciae	Chapter 3 of prescribed text available from the library (digital copy) Additional readings and lectures on course Moodle site.	Zoom tutorial Wednesday 3rd of April 7pm AEST.

Week 5 - 08 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Tendons, sheaths and retinaculae	Chapter 3 of prescribed text available from the library (digital copy) Additional readings and lectures on course Moodle site.	

Vacation Week - 15 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Week 6 - 22 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Bursae and fat pads	Lectures and notes on Moodle site. Additional readings and lectures on course Moodle site.	Zoom tutorial Wednesday 24nd of April 6pm AEST.

Week 7 - 29 Apr 2019

Module/Topic	Chapter	Events and Submissions/Topic
Nerves and Vessels	Chapter 4 of prescribed text available from the library (digital copy) Additional readings and lectures on course Moodle site.	

Week 8 - 06 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
Ligaments	Lectures and notes on Moodle site. Additional readings and lectures on course Moodle site.	Oral Presentations Due: Thursday 9th of May. 1:30 pm AEST. Written Assessment - e-poster Due: Week 8 Monday (6 May 2019) 10:00 am AEST

Week 9 - 13 May 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Bones and joints	Chapter 5 of prescribed text available from the library (digital copy) Additional readings and lectures on course Moodle site.	Zoom tutorial Wednesday 15th April 6pm AEST.
Week 10 - 20 May 2019		
Module/Topic	Chapter	Events and Submissions/Topic
Soft tissue characterisation.	Lectures and notes on Moodle site. Additional readings and lectures on course Moodle site.	
Week 11 - 27 May 2019		
Module/Topic	Chapter	Events and Submissions/Topic
Interventional techniques	Chapter 18 of prescribed text available from the library (digital copy) Additional readings and lectures on course Moodle site.	
Week 12 - 03 Jun 2019		
Module/Topic	Chapter	Events and Submissions/Topic
Revision and online test		Online Test open: Week 12 Monday 3rd of June 9:00 am AEST.
Review/Exam Week - 10 Jun 2019		
Module/Topic	Chapter	Events and Submissions/Topic
		Online Test Due: Review/Exam Week Monday (10 June 2019) 9:00 am AEST
Exam Week - 17 Jun 2019		
Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

The Fundamentals of Musculoskeletal Ultrasound unit coordinator in Term 1, 2019 is Brendan Goode. The preferred method of contact is via email: b.goode@cqu.edu.au. Alternatively my phone number is 03 96160519.

In the Fundamentals of Musculoskeletal Ultrasound Unit you will be introduced to the theory and practice of soft tissue ultrasound imaging. You will develop an understanding of the anatomical structures, biomechanics and pathology associated with musculoskeletal ultrasound.

Regular Zoom tutorial sessions will be run throughout the term and it is important for you to attend these in order to deepen your understanding of the unit material and better understand the intricacies associated with musculoskeletal ultrasound. As a suggestion, students should devote 12.5 hours each week to study in each 6 credit unit.

The prescribed textbook for this course is:
 Ultrasound of the Musculoskeletal System (2007)
 Authors: Stefano Bianchi and Carlo Martinoli
 Springer-Verlag Berlin Heidelberg
 New York, New York, USA
 ISBN ISBN-13:978-3540422679

Please note digital copies are available through the CQUniversity library.

Assessment Tasks

1 Online Test

Assessment Type
 Online Test

Task Description

Health professionals are required to possess a body of knowledge that is relevant to their scope of practice whereby fundamental knowledge is required to be understood and then be built upon clinically. To demonstrate your understanding and knowledge of this unit you are required to complete an online test.

- This test must be accessed through the assessment tab on Moodle and will comprise 10 questions addressing multiple weeks of content requiring written responses to be completed in a 90 minute time frame.
- The test will be open from Monday the 3rd of June at 9 am (AEST) and will close on Monday 10th of June at 9 am (AEST)
- You will need to allocate a 90 minute period throughout the time the test is open in order to complete the test. Please note: You MUST start the test before 7:30 am (AEST) on Monday the 3rd of June as the test will automatically close at 9 am (AEST) Monday 10th of June.
- The test will be open for 90 minutes (allowing 9 minutes per question) with only ONE attempt being allowed
- Once started the test cannot be paused, stopped, re-started or re-taken
- Questions will be drawn from a pool of questions to allow each student test to be unique whilst addressing the same learning outcomes for each student. Image viewing questions may be included and you are required to be familiar with normal and pathological sonographic imaging of the areas discussed in this unit
- As this test is online and open book, you will find it useful if you have produced your own notes from the lectures and tutorials and that you are familiar with the unit information
- You may benefit from having a calculator available when sitting the test

This assessment is to be undertaken as an individual. As with all other university examinations, colluding with other students on non-group work tasks is considered academic misconduct and may lead to action being taken by the University.

Assessment Due Date

Review/Exam Week Monday (10 June 2019) 9:00 am AEST

The online test will be automatically submitted at the completion of the test or once the time limit is reached, whichever occurs first.

Return Date to Students

Exam Week Monday (17 June 2019)

Results will be available in the unit Moodle site.

Weighting

Pass/Fail

Minimum mark or grade

50%

Assessment Criteria

You must provide short to medium length typed responses to a series of online questions.

Image viewing questions may be included and you are required to be familiar with both normal and pathological sonographic appearances.

The test will comprise of 10 questions with each question worth 10 marks (giving a maximum of 100 marks available)

Responses will be assessed according to:

- use of appropriate terminology and descriptors as well as grammar, spelling, relevance of response and competence in addressing all elements of the question
- the ability to appropriately interpret sonographic images and then to succinctly compose an appropriate response based on their learning from the unit.

No referencing style is required in the online test.

Referencing Style

- [Vancouver](#)

Submission

Online

Submission Instructions

Test will be online, accessed through the assessment tab on Moodle and will comprise 10 questions requiring answers.

The test will be open for 90 minutes and once started cannot be paused or retaken. The online test will be automatically submitted once completed or the time limit of 90 minutes has been reached.

Learning Outcomes Assessed

- Describe general anatomy, biomechanics and pathophysiology of the musculoskeletal system and related

- structures
- Differentiate normal and simple abnormal ultrasound appearance of the musculoskeletal system and related structures
- Differentiate ultrasound appearance of the musculoskeletal system from anatomical structures and pathology of other body systems
- Interpret static and dynamic diagnostic ultrasound images to provide a provisional differential diagnosis.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills

2 Written Assessment - e-poster

Assessment Type

Written Assessment

Task Description

In your role as a health professional you may be asked to complete a presentation, for example, at a conference where e-posters are common. In this assessment task you will develop skills associated with producing an e-poster which will enable you to undertake this task for any topic. In addition you will be orally presenting your e-poster at a Zoom session attended by students enrolled in the unit and your unit coordinator. During the oral presentation of your e-poster, you will be asked to share your understanding of your topic with your peers. Your peers will then provide feedback related to your presentation to the unit coordinator and this feedback will contribute to your overall assessment grade. Please note the e-poster Zoom presentations are scheduled for Thursday the 9th of May at 1:30 pm AEST.

You are required to develop an educational e-poster that clearly presents the use of ultrasound to examine a specific musculoskeletal (MSK) structure or pathology.

- The presentation must be limited to eight (8) slides excluding the title and reference slides
- An abstract is required to accompany the e-poster, but not included within the poster
- The e-poster should be written at a level suitable for presentation at a conference
- You must state which conference you would intend it to be presented to (nominate your intended audience)
- The first slide should be the title slide which should contain the title of the presentation, your name and qualifications
- Each content slide should have clear headings and be presented in a logical, clear and visually appealing fashion
- The area outlined in the poster should be clinically relevant to the practice of musculoskeletal sonography
- The anatomy, sonographic appearance of normal and abnormal structures, and a discussion of why the examination may be undertaken along with the pathology that may be encountered in the region should be discussed.

You are required to have researched, analysed, critically reflected on and synthesized current (less than 10 yrs post publication) medical literature from peer reviewed sources. A high level of communication needs to be utilized to convey a clear message with all anatomical images being of high quality, well labelled and correctly referenced. Please note all slides are required to be in 'landscape' format.

Assessment Due Date

Week 8 Monday (6 May 2019) 10:00 am AEST

On-line via Moodle

Return Date to Students

Week 10 Thursday (23 May 2019)

Results will be available in the Moodle site with feedback.

Weighting

Pass/Fail

Minimum mark or grade

50%

Assessment Criteria

The written component of your e-poster will be assessed on academic writing quality and should address the following points;

- The e-poster should contain organized, logical and coherent content with a clear and concise message
- Please use numbers and bullets to highlight points. Your poster will be assessed on the accurate use of spelling, grammar and terminology suitable for the target audience

- Content of e-poster - the purpose of the poster should be clear and relevant to the field of musculoskeletal sonography
- The anatomy, sonographic appearance and pathophysiology of a particular structure or tissue should be presented with diagrams and images used to support the discussion
- Evidence based content must be used.

Suitability for presentation - The e-poster should be suitable for presentation at the chosen conference and the subject matter relevant to the selected audience. Referencing - In-text references and the reference list must be all accurate, complete and in the correct Vancouver style with high quality and appropriate sources utilized.

The oral component of your e-poster will be assessed on the following points;

- Presentation content
- Presentation delivery
- Use of audio-visual aids

The marking rubric to be used for this assessment is available on the unit Moodle site in week one along with the oral presentation feedback form which provides more detail related to the oral presentation.

Referencing Style

- [Vancouver](#)

Submission

Online

Submission Instructions

e-poster online via unit Moodle site while oral presentation feedback forms are to be scanned and emailed to the unit coordinator at the completion of the oral presentation Zoom session in week 8.

Learning Outcomes Assessed

- Differentiate ultrasound appearance of the musculoskeletal system from anatomical structures and pathology of other body systems
- Interpret static and dynamic diagnostic ultrasound images to provide a provisional differential diagnosis.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Self-management

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?



Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem